

## MATERIALS FOR A FLORA OF TURKEY: XX

### LEGUMINOSAE: TRIFOLIEAE

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#### TRIFOLIUM L.

*Trifolium euxinum* Zoh., sp. nov. (Sect. *Amoria* (C. Presl) Lojac.).

Affinis *T. balansae* Boiss., sed differt forma foliorum, forma et magnitudine floris et vexilli, involucro minuto ad basin capituli.

*Herba annua*, glabra vel glabrescens, 30 cm. *Caules* pauci, furcati, superne parce ramosi. *Stipulae* usque ad 2 cm longae, herbaceae, prominenter nervosae, parte libera ovata vel oblonga, apice sensim attenuato-cuspidata; foliola foliorum inferiorum 0·6-1·2 cm, obovata, apice rotundata vel emarginata, superiorum 1·1-1·8 × 0·8-1 cm, rhomboideo-elliptica, spinulosodentata, mucronulata. *Pedunculi* foliis longiores. *Capitula* 30-50 (vel ulterior) flava, basi cum involucro minuto 10-12-bracteato cincta; bracteae involucri albae, ovato-triangulares, mucronatae. *Pedicelli* tubo calycinio aequilongi vel longiores, apice parce pilosi. *Bracteae* florales albidae, subulatae, paulo plicatae, circiter tertiae parti pedicelli aequilongae. *Flores* circa 1 cm longi. *Calyx* glaber, tubo albido obscurae nervoso; dentes virentes, subulati, uniovulari, tubo fere dimidio breviores. *Corolla* rosea, demum carnea, calyce duplo longior; vexillum ovatum, striatum, alis longe unguiculatis carinaque incurva et conspicue rostrata longius. *Ovarium* sessile, lineare, stylo brevius, 3(-4)-ovulatum. *Legumen* (juvenile) lineare, apice pilosum, cum suturis crassis. *Semina* 2-3. Floret Jul.-Aug.

TURKEY. A4 Kastamonu: Keltepe above Karabük at Sorgun Yayla, ungrazed pastures, 1300 m, 4 viii 1962, Davis & Coode (holo. E, cult.).

*Trifolium pachycalyx* Zoh., sp. nov. (Sect. *Micrantheum* (C. Presl) Gib. & Belli).

Affinis *T. cernuo* Brot. et *T. suffocato* L. sed differt capitulis et floribus sessilibus, bracteis minutissimis, calycibus gibbosus, calyce fructifero bilabiato, facie superne valde indurato, spongioso, enervio.

*Herba annua*, glabra, 5-15 cm. *Caules* plures, procumbentes vel ascendentes, foliosi. *Folia* longissime petiolata, secus caules et ramos dispersa; stipulae lato-ovatae, membranaceae, parte libera lanceolata; petioli 5-8 cm longi, filiformes; foliola 0·8-1 × 0·3-0·8 cm, obovato-cuneata, truncata vel retusa, apice serrato-dentata, glabra. *Capitula* axillaria, 0·7-1 cm diametro, globosa, multiflora, sessilia, foliis multo breviora. *Bracteae* circa 1 mm longae, membranaceae, ovato-oblongae, mucronatae. *Flores* sessiles, densissimi, 5-6 mm longi, subpatentes, demum deflexi. *Calyx* cylindricus, irregularis, fructifer bilabiatus; tubus circa 12-nervius parce adpresso puberulus; dentes fere aequales, tubo subaequilongi, lanceolato-subulati, anguste membranacei. *Corolla* alba, calyce multo brevior, tubum parce superans; vexillum ellipticum longe unguiculatum, alis et carina longius. *Calyx* fructifer deflexus,

facie inferiore valde gibbosus, tridentatus, facie superiore indurato-spongiosus, enervius, bidentatus, dentibus triangulari-lanceolatis, fauce nuda. *Legumen* 3 mm, membranaceum, subsessile, ellipsoideum, dispermum, inter semina constrictum, rostro duplo vel ultra longius. *Semina* globosa, reniformia, fuscresentia. Floret Maio.

TURKEY. A2(E) İstanbul: Champs de lin, entre Chichli (Şişli) & Kiathané Keuy, 23 v 1892, *Aznavour* (holo. G). A2(A) İstanbul: Proti (Kimaliada), 28 v 1938, Hb. Post.

**Trifolium apertum** Bobrov var. **kilaicum** Zoh. et Lern., var. nov. (Sect. *Trifolium*).

*Planta* 10–30 cm. *Caules* plures, ascendentes. *Dentes calycini* inferiores tubo et dentibus reliquis sesquibreviores. *Calyx fructifer* cum dentibus basi semper reticulato-nervosis. *Capitulum fructiferum* 1·2–1·5 cm longum.

TURKEY. A1(E) Tekirdağ: 4 km ENE of Saray, *Bauer & Spitzenberger* 294. A2(E) İstanbul: Collines argileuses près de Kila (Kilyos), 29 vi 1893, *Aznavour* (holo. G); Kilyos, 1936, B. Post. A6 Ordu: Fatsa to Aybastı, 800 m, *Tobey* 1378.

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#### TRIGONELLA L.

**Trigonella arenicola** Huber-Morath, sp. nov. (Sect. *Bucerates* Boiss.).

*Planta* annua, pluricaulis, tota modice adpresso vel subadpresso pilosa, eglandulosa. *Caules* diffusi, 3–10 cm longi, 0·5–1 mm crassi, teretes vel tenuiter striati, modice foliosi. *Folia* trifoliolata, breviter petiolata, petiolis 1–3 mm longis; foliola parva, obovato- vel obcordato-cuneata, antice obtusa vel truncata, 7–15-denticulata, brevissime petiolulata, 2–5 mm longa, 2–4 mm lata. *Stipulae* semi-sagittatae, lanceolato-acuminatae, integrae vel paucidentatae. *Racemus* sphaericus, subumbellatus, 4–6-florus; pedunculus 0·5–1 cm longus. *Pedicelli* brevissimi. *Bracteae* minutae, scariosae. *Calyx* campanulatus, 3 mm longus, laciniis aequilongis, lanceolatis, tubo brevioribus. *Corolla* lutea; vexillum late obovatum, 5–7 mm longum; carina vexillo subbrevior, cum alis dente conjuncta; alae carina subbreviores. *Ovarium* lineare, adpresso pilosum, 4–6-ovulatum. *Legumina* patula, linearia, leviter falcata, subcompressa, apice breviter acuminata, 1–1·5 cm longa, 1·5–2 mm lata, conspicue reticulatim nervosa, suturis incrassatis, regulariter curvatis, nec undulatis. *Semina* oblonga, 2 mm longa, 1 mm lata, conspicue tuberculato-rugosa. Floret Maio.

TURKEY. C3 Antalya: Sandstrand bei Lara, 7–8 km östlich von Antalya, 23 v 1950, *Huber-Morath* 9859 (holo. Hb. Hub.-Mor.).

Related to *T. halophila* Boiss., but clearly differing in the legumes curved upwards, not stellate-spreading, with regularly curved sutures, and distinctly wrinkled seeds. It also differs from *T. halophila* in the larger calyx and corolla.

**Trigonella mesopotamica** Huber-Morath, sp. nov. (Sect. *Cylindrica* Boiss.).

Syn.: *T. hierosolymitana* auct., quoad plantam anatolicam et syriacam, non Boiss. (1849).

*T. kotschyi* Fenzl var. *hierosolymitana* (Boiss.) Širj. in *Publ. Fac. Sci. Univ. Masaryk Brno* 1(2):27 (1929) pro parte, excl. typ.; *T. kotschyi* Fenzl subsp. *hierosolymitana* (Boiss.) Thiéb., *Fl. Lib.-Syr.* 2:19 (1940), excl. typ.

*Planta annua*, 10–40 cm alta, a basi dense ramosa, modice subadpresse pilosa. *Caulis* ascendenter-erecti, 0.5–1 mm crassi, striati, breviter pilosuli. *Folia* trifoliolata, petiolata, modice subpatule pilosa, petiolis 8–25 mm longis; foliola obovata vel oblanceolata, obtusa, 8–20 mm longa, 4–7 mm lata, in  $\frac{2}{3}$  superioribus argute denticulata. *Stipulae* lanceolato-acuminatae, integrae, subadpresse pilosae. *Racemosus* laxiuscule capitulatus, 5–10-florus; pedunculus patule pilosulus, 2.5–4 cm longus. *Pedicelli* c. 1 mm longi, pilosuli, demum reflexi. *Bracteae* minutae, subulatae. *Calyx* campanulatus, 3–4 mm longus, subadpresse pilosulus, tubus 1.8–2.2 mm longus, dentibus inaequalibus, superioribus binis lanceolato-acuminatis, 1.2–2 mm longis, inferioribus tribus lanceolato-triangularibus, 0.5–1.1 mm longis. *Corolla* lutea; vexillum obovatum, 7–8 mm longum; carina vexillo subaequilonga, cum alis dente conjuncta; alae carina  $\frac{1}{4}$  breviores. *Ovarium* lineare, adpresse pilosum, 4–5-ovulatum. *Legumen* lineare, teres, falcatum vel semicirculariter curvatum, breviter adpresse pilosulum, indistincte reticulato-nervosum, parte seminifera 1.5–1.8 cm longa, in rostrum rectum vel  $\pm$  curvatum, 0.5–0.7 cm longum, sensim attenuatum. *Senina* oblonga, 2–2.5 mm longa, 1–1.5 mm lata, tenuissime tuberculata. *Floret* Apr.-Maio.

TURKEY. B8 Siirt: 37 km from Siirt to Baykan, 800–900 m, *Davis* 43172. C6 Gaziantep: Aintab (Gaziantep), *Haradjian* 1239, 67; 6 km E of Gaziantep, 700 m, *Huber-Morath* 13367; Montagnes du Kurd Da., 1200–1500 m, *Haradjian* 1110; Nizip to Birecik, 450 m, *Davis & Hedge*, *D.* 27922. C7 Urfa: Birecik, Djebel Taken, *Sintenis* 568; Süruç to Urfa, 600 m, *Davis & Hedge*, *D.* 27988; 40 km from Viranşehir to Urfa, 700 m, *Davis* 42408. C8 Siirt: 3 km S of Siirt, 800 m, *Davis* 43201; Ramana Da., 20 km from Hasankeyf to Barman, 730 m, *Davis* 42984. C8 Mardin: 11 km from Midyat to Gercüş, 1100 m, limestone steppe, 13 v 1966, *Davis* 42899 (holo. E); Kızılıtepe, 600 m, *Davis* 28649; Savur, 900 m, *Davis & Hedge*, *D.* 28561; Mardin to Diyarbakir, 24 km from Mardin, 1000 m, *Davis & Hedge*, *D.* 28712. C9 Siirt: above Şirnak, 1400–1500 m, *Davis* 42605.

SYRIA (Antilebanon). Baalbek, 1200 m, *Bertschinger*. Bludan, *Reese*.

Allied to *T. hierosolymitana* Boiss. (probably endemic in Palestine), which differs mainly in its longer subequal calyx teeth.

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